

WHAT IS CLAIMED IS:

- 1 1. A vending machine, comprising:
 - 2 a housing for storing products to be dispensed;
 - 3 a product dispensing assembly comprising a dispenser for holding and dispensing a
 - 4 product,
 - 5 an actual product depth for the dispenser;
 - 6 a product dispensing mechanism depth setting for the product dispensing assembly;
 - 7 a product vend detector adaptable to sense when the product is dispensed; and
 - 8 a controller electrically coupled to the product dispensing assembly, wherein the
 - 9 controller is adaptable to receiving input signals from the product vend detector and programmable
 - 10 to adjust the product dispensing mechanism depth setting to match the actual product depth.
- 1 2. The vending machine according to claim 1, wherein the controller compares the input signals sent by the product vend detector to the product dispensing mechanism depth setting for the product dispensing assembly to determine whether the controller will enter a learning mode to adjust the depth setting.
- 1 3. The vending machine according to claim 2, wherein the learning mode is entered when the input signals sent by the product vend detector do not match the depth setting for the product dispensing assembly.
- 1 4. The vending machine according to claim 3, wherein when in the learning mode, the controller counts the number of products vended during a complete vend cycle of the product dispensing mechanism.

1 5. The vending machine according to claim 4, wherein the controller adjusts the depth
2 setting of the product dispensing mechanism to match the number or products vended during the
3 complete vend cycle.

1 6. The vending machine according to claim 5, further comprising
2 a product chute for receiving the product when dispensed by the dispenser; and
3 wherein the product vend detector is positioned substantially at the product chute.

1 7. The vending machine according to claim 6, wherein the product vend detector is an
2 impact sensor.

1 8. The vending machine according to claim 6, wherein the product vend detector is an
2 optical sensor.

1 9. The vending machine according to claim 5, wherein the product vend detector is
2 positioned substantially below the product dispenser.

1 10. The vending machine according to claim 9, wherein the product vend detector is an
2 impact sensor.

1 11. The vending machine according to claim 9, wherein the product vend detector is an
2 optical sensor.

1 12. A method for dispensing products from a vending machine, comprising the steps of:
2 storing products in a product dispensing assembly having an actual product depth;
3 setting a first product depth setting for a product dispensing assembly;
4 sensing input signals when products are dispensed;
5 transmitting the input signals from a product vend detector to a controller;
6 comparing the input signals to the first product depth setting; and
7 adjusting the first product depth setting for a product dispensing assembly to a second
8 product depth setting that matches the actual product depth.

1 13. The method according to claim 12, wherein the controller compares the input signals
2 transmitted by the product vend detector to the first product depth setting for the product dispensing
3 assembly to determine whether the controller will enter a learning mode to adjust the depth setting.

1 14. The method according to claim 13, wherein the learning mode is entered when the
2 input signals sent by the product vend detector do not match the depth setting for the product
3 dispensing assembly.

1 15. The vending machine according to claim 14, wherein when in the learning mode, the
2 controller counts the number of products vended during a complete vend cycle of the product
3 dispensing mechanism.

1 16. The vending machine according to claim 15, wherein the controller adjusts the depth
2 setting of the product dispensing mechanism to match the number of products vended during the
3 complete vend cycle.